

# LINEAR VARIABLE DIFFERENTIAL TRANSFORMER

- ◆ Large size LVDT for class room
- ◆ Transparent casing for proper viewing
- ◆ AC and DC output
- ◆ Slow motion displacement



## Introduction

A Linear Variable Differential Transformer (LVDT), is a transducer for linear displacement measurement. Using suitable accessories, the LVDT can be used for pressure measurement, weight measurement, liquid level sensing etc. The principal features of LVDT are its good linearity and high sensitivity in a large range.

The present experimental unit comprises of a LVDT in a transparent box with lead screw based slow motion displacement, a mm scale for displacement

measurement, and main unit consisting of excitation signal source, balanced demodulator, a 3½ digit DVM and necessary power supplies. The signals are provided to the LVDT box through a cable from the main unit.

The unit is supplied with a detailed user manual which explains the theoretical background alongwith procedures for conducting the experiments and tabulating the results. Some typical results and references are also given.

## Experiments

- Variation of modulated output with displacement
- Input - Output characteristics
- Determination of linear range and transducer gain

## Features and Specifications

- LVDT
  - Range:  $\pm 50\text{mm}$  or total  $100\text{mm}$  (typical)
  - Sensitivity:  $25\text{mV/cm}$  (typical)
  - Operating frequency:  $5\text{KHz} \pm 5\%$
- Displacement measurement on a mm scale with fine motion control
- Carrier source (internal):  $5\text{KHz} \pm 5\%$ ;  $1.5\text{V}$  (nominal)

- IC based balanced demodulator circuit
- IC controlled internal power supplies
- 220V±10%, 50Hz mains operation
- Essential accessory – a CRO



*Mechanical unit*

## Characteristics

